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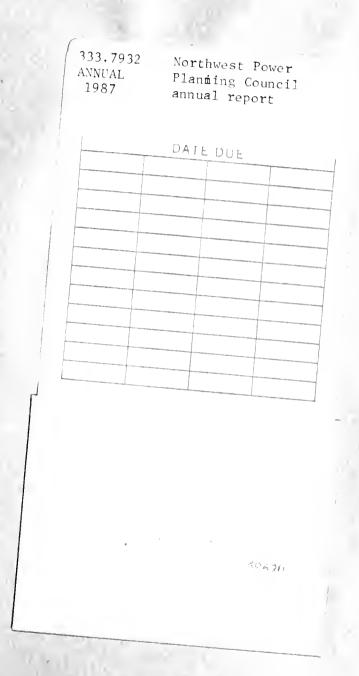






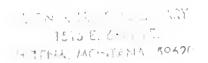
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SEVENTH ANNUAL REPORT of the Pacific Northwest Electric Power and Conservation Planning Council

OCTOBER 1, 1986, THROUGH SEPTEMBER 30, 1987

Submitted to the Committee on Energy and Natural Resources United States Senate

Committee on Energy and Commerce United States House of Representatives

and the Committee on Interior and Insular Affairs United States House of Representatives

Northwest Power Planning Council 850 S.W. Broadway Suite 1100 Portland, Oregon 97205

(503) 222-5161
Toll-free number in Idaho, Montana and Washington: 1-800-222-3355
Toll-free number in Oregon: 1-800-452-2324

TABLE OF CONTENTS

INTRODUCTION 4
FISH AND WILDLIFE ACCOMPLISHMENTS . 7
POWER PLANNING ACCOMPLISHMENTS 15
CONGRESSIONAL ACTIVITIES23
PUBLIC INVOLVEMENT ACTIVITIES25
LEGAL ACTIVITIES
ADMINISTRATIVE ACTIVITIES32
COUNCIL MEMBERS
_ISTOFAPPENDICES 36

The annual report has been developed pursuant to Section 4(h) 12)(A) of the Pacific Northwest Electric Power Planning and Conservation Act of 1980 (Public Law 96-501). While the Act requires only a report of the Council's fish and wildlife activities, the Council has elected to include its power planning bub ic involvement. legal and administrative activities as well.

NORTHWEST POWER PLANNING COUNCIL



October 1, 1987

To the Members of Congress and the People of the Pacific Northwest:

The Northwest Power Planning Council's Seventh Annual Report to Congress describes the Council's progress in fulfilling the mandate of the Pacific Northwest Electric Power Planning and Conservation Act. The Act required the Council to develop both a program to rebuild Columbia River fish resources and a regional electric energy plan that ensures the Northwest has an adequate supply of electricity at the lowest possible cost.

During the past 12 months, the Council has proceeded with the most comprehensive planning effort ever undertaken to increase the numbers of salmon and steelhead in the Columbia River Basin. We have also made great strides with the Bonneville Power Administration in working out effective ways to resolve problems. Those accomplishments and others required considerable cooperation among many parties in the Pacific Northwest.

Perhaps the Council's greatest contribution in 1987 has been as a catalyst for that cooperation. By providing a forum for fish and power interests to discuss their differences, the Council has encouraged a consensus whenever possible in planning and implementing actions to further the objectives of the power plan and the fish and wildlife program.

Cooperation may be the key to protecting two great Northwest resources—low-cost electricity and the fish and wildlife resources that give the region its unique character. This annual report summarizes the actions we have taken during the past year toward that end. The Northwest Power Planning Council is committed to ensuring that those resources continue to benefit the region and the nation both now and in the future.

Very truly yours,

Robert B. Duncan

Chairman

INTRODUCTION



The Northwest Power Planning Council was created in 1981 to plan for the Northwest's electrical power needs and to protect and rehabilitate fish and wildlife resources affected by hydropower in the Columbia River Basin Formed to implement the Northwest Power Act of 1980, the Council is an interstate compact agency consisting of members from the states of Idaho, Montana Oregon and Washington The governors of those states each appoint two members to the Council

The Council was established as a publicly accountable body to give Northwest citizens a stronger voice in regional power planning and fish and wildlife activities in the Columbia River Basin. In the Northwest Power Act, Congress gave the Council three principal charges.

- To determine how much electric energy the region will need over the next 20 years and to develop a power plan to meet those needs at the lowest cost to the region.
- To develop a program to protect and rebuild species of Columbia River Basin fish and wildlife that have been affected by hydroelectric development and operations.
- 3. To conduct extensive activities to encourage public involvement in the Council's decisions.

The complete title of the Act is the Pacific Northwest Electric Power Planning and Conservation Act. The formal name of the Council is the Pacific Northwest Electric Power and Conservation Planning Council.

The work of the Northwest Power Planning Council is tied closely to the actions of the Bonneville Power Administration, the region's federal power marketing agency. The Northwest Power Act expanded Bonneville authority to acquire energy resources, both through conservation and additional generating facilities. The Act also gave Bonneville authority to make expenditures to "protect, mitigate and enhance" fish and wildlife in the Columbia River Basin.

To balance those new powers, the Act authorized the creation of the Council By encouraging regional input into the actions of Bonneville and other federal implementing agencies, the Council promotes public participation in power, fish and wildlife issues affecting residents of the Pacific Northwest. While the Council is neither a federal agency nor part of the Bonneville Power Administration, it is funded by Bonneville rate revenues.

To fulfill its congressional mandate, the Council has developed the Northwest Power Plan and the Columbia River Basin Fish and Wildlife Program. Both contain action plans with specific measures to be undertaken by various agencies involved with Northwest power and fish projects. Under the Northwest Power Act, both the plan and the program must be opened to public review at least every five years



Catalyst for Cooperation

The common thread running through the Council's responsibilities is cooperation. Development and implementation of the Council's plans require a great deal of interaction among many groups and agencies. Historically, cooperation has not come easily because both power and fish issues have been fraught with conflict in the Pacific Northwest. The technical, economic, social and political complexities of the two areas fostered an adversarial relationship among various interests in the region.

Described as a "catalyst for cooperation" in the region, the Council has provided a forum for traditional adversaries to discuss their differences. For its planning efforts to be effective, the Council has sought to forge a consensus among the region's diverse interests. Given the long-standing nature of some of their differences, agreement has not been achieved easily. But in 1987, the Council made progress in helping the region move toward common objectives.

Progress in 1987: An Overview

Fish and Wildlife

During the first half of Fiscal Year 1987, the Council completed a

two-year process to amend the Columbia River Basin Fish and Wildlife Program. The new program set an interim goal of doubling the salmon and steelhead runs in the basin. Established with widespread public input, that goal represents an historic consensus on improving fish productivity in the Columbia River Basin. That consensus among the utility community, the fish and wildlife agencies, the tribes, hydropower project operators and regulators and others signified an important step toward accommodating both fish and power interests in the basin.

During the second half of the year, the Council focused on planning and implementing the program Work included initiating the most comprehensive planning effort ever undertaken to increase the numbers of salmon and steelhead in the basin and overseeing projects to increase fish production and improve the chances for fish survival in the Columbia Basin

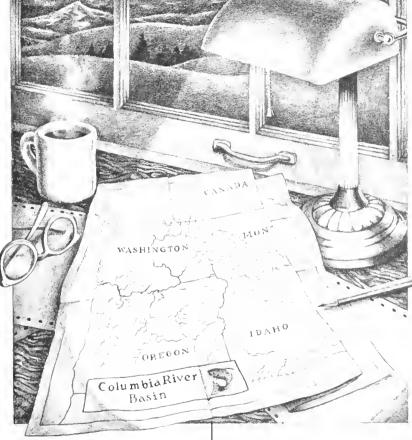
Because the nature of the Council's work is planning, immediate returns on Council actions are rare. The success of the Council's efforts may be measured best in the long run. The salmon and steelhead runs declined over decades; they will not be rebuilt quickly. Yet, recent indications that some fish runs are increasing in the Columbia Basin give reason for hope.

In June 1987. The Oregonian, a Portland. Oregon, newspaper, reported that some salmon and steelhead runs have shown promising increases in the past few years. The article stated that the number of fall chinook salmon returning to the Columbia from the ocean is expected to increase from 79,000 in 1979-80 to an estimated 436,000 projected for this year. According to figures compiled by the Council, more than 91,000 sockeye salmon were counted at Bonneville Dam by July 6, 1987, on their way upriver, compared to 15,000 in

1978. While no one has pinpointed the exact cause of the comeback, the newspaper article described factors that may have contributed to the growth. such as providing more water to help iuvenile fish travel downriver, and identified the many groups that play a role in Columbia River Basin fish and power issues

The article stressed the need for cooperation among the tribes, utilities, agricultural interests, non-Indian

fishermen, fish and wildlife agencies. Industries that rely on cheap power and federal power managers and regulators. In the words of *The Oregonian* reporter. "the job of sorting it all out rests with the Northwest Power Planning Council."





"The job of sorting it all out rests with the Northwest Power Planning Council."

The Council has devoted much time and effort to encouraging cooperation among these various groups. Because of the long history of conflict over fish and power issues in the basin, promoting that cooperation may be the Council's greatest contribution to improving the salmon and steelhead runs.

The Council's fish and wildlife program has not existed long enough to be credited with the growing numbers of salmon and steelhead in the basin. As a result of the Council's efforts, however, the impacts of hydroelectric development on those valuable fish are better understood, and widespread efforts are under way to mitigate those impacts. Those efforts are detailed in the section on "Fish and Wildlife Accomplishments."

Power Planning

Progress in the power planning area in 1987 has centered on two concerns that are interwoven in the 1986 Northwest Power Plan — cooperation and cost-effectiveness. Regional cooperation was the major theme of the plan. The Council encouraged cooperation among the various power interests to ensure that resource development would be coordinated and that the lowest-cost resources would be developed first.

Without cooperation, some power interests might develop expensive resources when other more cost-effective ones exist. With cooperation, the region could save \$2.2 billion in resource development costs over the next 20 years. Through its emphasis on regional cooperation, the Council is working to eliminate uncoordinated resource development that could prove costly to the region and harmful to the economy and the environment.

As in fish and wildlife issues, groups involved in electric power generation, transmission and use have often been divided in the past. The Council has worked to find common ground among those groups.

Significant progress was made in Fiscal Year 1987 regarding discussions between the Council and Bonneville on resource acquisitions, an issue that was crucial to the balance between federal and state responsibilities in regional energy planning. The Northwest Power Act stipulates that major power resources acquired by Bonneville are subject to both public review and review by the Council to ensure they are consistent with the Council's plan. Bonneville and the Council had disagreed over what constituted a "major resource." Their extensive discussions and eventual resolution provided an example of regional cooperation that was a critical element in implementing the Act.

To the extent that cooperation can be encouraged through education, the Council's Western E ectricity

Study may further regional cooperation by providing a greater understanding of the network of electricity systems throughout the West and the impacts they have on each other. The study began in the spring and is scheduled to continue throughout the year. It will include a series of briefing papers describing the characteristics of electrical systems in 11 Western states and two Canadian provinces.

The Council is acting upon its commitment to seek low-cost energy resources for the region through its policy of least-cost energy planning. Because of the current energy surplus in the region, new resources do not need to be developed now unless they represent lost opportunities to the region. Lost-opportunity resources are energy resources that may become unavailable or lose their cost-effectiveness unless actions are taken now to develop them or to hold them for future use.

The primary example of a lost-opportunity resource occurs in the construction of new buildings. If new buildings are not constructed to be energy-efficient now, they will consume electricity inefficiently long after the surplus is over. If they are retrofitted with energy-efficient measures after they are built, the cost will be considerably higher. For these reasons, the Council's efforts have focused primarily on model conservation standards for constructing more energy-efficient buildings and homes throughout the region.

To encourage the construction of energy-efficient buildings, the Council has sought the cooperation of utilities, builders and state and local governments. The Council amended its model conservation building standards in January to allow greater flexibility for builders and utilities in achieving those standards.

The Council does the planning; others implement the plans. The success of those planning and implementation activities depends upon input from utilities, government agencies, consumers and the general public.

If the Northwest Power Plan is fully implemented, the Council anticipates the region's average retail electricity rates over the next 20 years will stabilize or decline, after adjusting for inflation, in all but high-growth conditions. That would signify a dramatic turnaround from the nearly 100 percent increase in retail rates and the more than 500 percent increase in wholesale power rates the Northwest has experienced since 1977 and would constitute a return to the rate stability that existed for decades before 1977

New Council Members

arly in calendar year 1987, Larry Mills of Idaho and Donald Godard of Oregon retired from the Council James Goller was appointed by Governor Cecil Andrus to represent Idaho, and Norma Paulus was named to serve on the Council by Oregon Governor Neil Goldschmidt

Goller spent 20 years on the House and Senate staffs of Idaho Senator James McClure; six of those years he served as chief of staff, managing both the senator's Idaho and Washington, D.C., offices An Oregon lawyer and former state legislator, Paulus served as Oregon's secretary of state from 1977 to 1985. She was the Republican candidate for governor in the 1986 Oregon general election.



FISH AND WILDLIFE ACCOMPLISHMENTS

The Columbia River Basin Fish and Wildlife Program

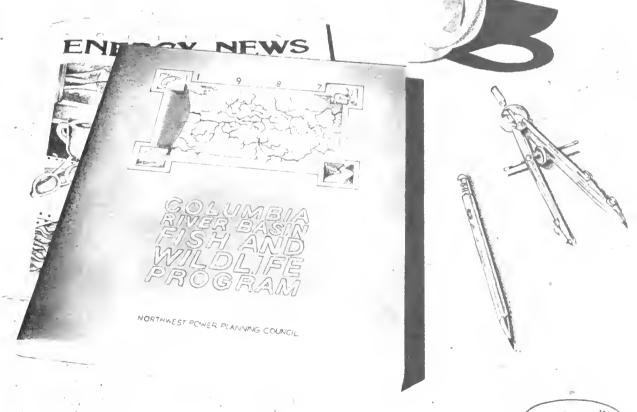
The Columbia River Basin long supported one of the world's most extensive salmon and steelhead populations. Now the basin provides one of the world's most valuable hydropower resources. The salmon and steelhead, which must navigate the river to the ocean and back, suffered enormous losses as, one after another, dams obstructed their passage. The once free-flowing river was turned into a series of lakes whose more sluggish waters slowed the migration of fish, thus increasing their susceptibility to disease and predators. By 1980, some Columbia River Basin salmon and steelhead runs were perilously close to total elimination. The Northwest Power Act was enacted, in part, to reverse those declines.

The Northwest Power Act requires that equitable treatment be provided for Columbia Basin fish and wildlife along with the other purposes for which the hydroelectric system is operated. That is, fish and wildlife are to be treated on a par with hydroelectric power, irrigation, water supply, navigation and other river uses.

The Act required that the Council strike a balance between fish and wildlife needs and electrical power needs
Although other
causes, such
as logging
irrigation,
flood

control and overfishing, contributed to the loss of fish the Northwest Power Act focused on the losses caused by hydropower development and operation. The Act stipulated that hydropower ratepayers would fund only the projects designed to redress the detrimental effects of hydropower development and operation on fish and wildlife in the basin.

First completed in 1982, the fish and wildlife program was amended in 1984 and 1987. The 1987 program includes new information on salmon and steelhead losses in the basin attributable to hydropower development, sets an interim goal for increasing the numbers of fish in the basin, and adds a new planning approach to meet that goal.



Major Activities in 1987

n many ways, the Council, working with Northwest I fish and wildlife agencies, Indian tribes, the Bonneville Power Administration, hydropower project operators, utilities, sportfishing enthusiasts and others. rewrote the Columbia River Basin Fish and Wildlife Program this past year. The complete process, from requesting amendment recommendations in July 1985 through publication of the final document in August 1987, has taken two years. The program now emphasizes the interim goal of doubling existing salmon and steelhead runs in the basin.

The new program also stresses monitoring and evaluating program implementation to determine the effectiveness of program measures Salmon and steelhead research priorities for both the Bonneville Power Administration and the U.S. Army Corps of

Engineers are also called for in the 1987 program These priorities emphasize the Council's intent to integrate research and program implementation basinwide. cutting duplications and filling gaps in the Northwest's understanding of the needs of salmon and steelhead

1987 was also a year in which poor water conditions in the Columbia River Basin tested the commitment to give equitable attention to the needs of the salmon and steelhead with other uses of the hydropower system. Fears that reservoir levels would stay low, threatening the system's ability to meet power and irrigation needs, were coupled with anxiety about the effect of low flow levels on spring and summer migrating salmon and steelhead Concerns on both sides remain, but difficult and controversial problems are being dealt with in a new spirit of flexibility and willingness to seek solutions.

In an effort to achieve a consensus among fish and power interests, the Council initiated a forum on mainstem passage issues. Composed of representatives of fish agencies tribes, utilities, Bonneville and the U.S. Army Corps of Engineers, the forum reached agreement on several issues, including the schedule and funding for installing screens at the dams to prevent fish from being swept into the turbines

The group also reached an agreement on research procedures to study fish mortality problems at the second powerhouse at Bonneville Dam. And, the group participated in a decision to release additional water from Grand Coulee Dam to help fish move down the lower Columbia River. These and other examples of cooperation are described more fully in the 'Mainstem' Passage" section

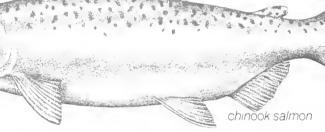
The Council has initiated a new planning process that will analyze more than 30 individual subbasins in the Columbia River drainage to determine the salmon and steelhead production capability of each subbasin The subbasin plans will be woven into a systemwide p an that will integrate measures throughout the Columbia River Basin into one consistent and comprehensive

Highlights of the 1987 Fish and Wildlife Program

The Columbia River Basin Fish and Wildlife Program is a tool for coordinating activities to rebuild fish and wildlife populations throughout the basin. The new program includes the following

A Survey of Salmon and Steelhead Losses

he 1987 revision of the program incorporated information assembled during the Council's exhaustive study of both the historical salmon and steelhead runs in the basin and the extent to which decreases in those runs are considered effects of hydropower dams.



The Council estimates that annual salmon and steelhead runs before development occurred in the basin numbered between 10 million and 16 million fish. The best available figure for the current run size is about 2.5 million adults (including ocean catches and counts of fish entering the mouth of the Columbia River). Thus, the decline of the runs due to all causes is estimated at 7 million to 14 million salmon and steelhead

This figure includes losses caused by many factors. from commercial fishing to destruction of habitat by logging, cattle grazing and other activities. However, the Council concluded that the construction and operation of hydropower dams had, by far, the largest impact on these runs, a loss estimated to be between 5 million. and 11 million fish, or approximately 75 percent of total losses.

Some parts of the basin were particularly hard hit. For example, about one-third less habitat is available for spawning and rearing than existed before dams blocked off the upper reaches of the Columbia River above Grand Coulee and Chief Joseph dams and the Snake River above Hells Canyon Dam. Remaining salmon and steelhead runs attempting to reach the upper basin must navigate past as many as nine major dams to reach their goal — the spawning grounds where they were born. Furthermore, hatcheries and other attempts. to make up for dam-related fish mortalities have been concentrated in the lower basin.

Clearly, the upper reaches of the Columbia and Snake rivers have been most severely affected by hydropower development and least compensated for their damages. The new program designates the upper basin as a high priority area for rehabilitation efforts.



An Interim Goal: Double the Existing Runs

iting a decrease in annual runs by 5 million to 11 million salmon and steelnead attributed to the hydropower system and recovering that many fish to replace them are two very different things. Until more is understood about the causes of fish losses and the effectiveness of various mitigation measures, the Council has set an interim goal of doubling the current run size of 2.5 million fish to achieve a new run size of about

To measure progress in reaching that goal, the Council is developing a monitoring and evaluation program to assess changes in fish run sizes and identify which changes may be attributable to program actions. A group of fisheries technical experts was formed in May to prepare a proposal for structuring the monitoring and eva uation program

A New Approach to Salmon and Steelhead Planning

n 1986, the Council recognized that measures in the program likely would result in a basinwide increase of only about 1 million adult salmon and steelhead. To double the runs, new actions had to be conceived and applied

To determine which production methods will work best in 31 diverse subbasins, the Council is funding planning in each subbasin and the integration of these plans into a systemwide plan. Those planning efforts will provide better estimates of total basinwide potential for increasing fish runs and compile information on alternative ways fish may be produced. The systemwide plan will include coordinating safe fish passage past mainstem dams; managed harvests that protect ratepayers' investments and support rebuilding of stocks, and salmon and steelhead production in natural and artificial environments.

The Council will use its computerized planning mode! of the salmon and steelhead life cycle ideveloped in 1986) to test basinwide responses to various hypothetical production, passage and harvest control alternatives

The salmon and steelhead data base, which was developed with information from more than a dozen organizations, will also be useful in this planning process. The data base can be used to map the distribution of various stocks of salmon and steelhead in stream reaches throughout the basin. It also will be useful in helping the Council determine which areas of the basin should be protected from hydropower development

Increased Protection for Mainstem Fish Passage

he new program continues to reflect basinwide concerns about the safety of young sa mon and steelhead migrating downstream past the mainstem Columbia and Snake river dams. Spilling fish-laden water over these dams provides a safer alternative to passage through turbines for young smolts (juvenile salmon and steelhead making the transformation from freshwater to saltwater as they migrate to the ocean) Spills are considered interim measures until mainstem Columbia and Snake river dams are fitted with fishprotecting screens and bypass channels

The program allows for a sliding scale of spills at Corps-operated dams. When water conditions are above critically low levels, water can be released in excess of that needed to guarantee at least 90 percent survival for the young fish. Even under poor conditions, adequate spills to enable safe passage for 90 percent of the fish must be supplied. Recent actions on spill are described in the section on "Mainstem Passage"



The Council initiated the most comprehensive planning effort ever undertaken to increase the numbers of salmon and steelhead in the basin.

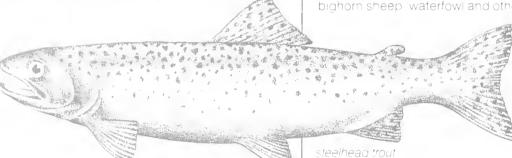


Increased Hatchery Production of Salmon and Steelhead

atcheries are probat. If the quickest means of increasing numbers of young fish in the Columbia River system. But hatcheries have their own problems particularly with fish diseases and the mixed-stock commercial harvest, which catches vital wild stocks along with the hatchery-bred fish. The new program calls for research and careful planning to make the best use of artificial fish production while reducing threats to wild and natural production. Before any product on facilities are approved for construction, each must have a master plan that describes sources for hatchery brood stock, schedules for rearing and releasing young fish a ternale sites for releases, and management policies.

The First Plans to Rebuild Wildlife Populations

The construction and operation of hydropower projects in the basin harmed more than just aquatic creatures. Land along rivers and streams is particularly valuable forage and nesting territory for many wildlife species. Much of this habitat has been inundated by the reservoirs backed up behind the dams. Repeated reservoir fill and drawdown also affect wildlife along prime shoreline habitat. The first plans in the program designed specifically to protect and revitalize wildlife other than fish were adopted in 1987. These plans are designed to compensate for losses at Libby and Hungry Horse dams in northwestern Montana. They will provide habitat and other support for deer, bear, bighorn sheep, waterfow, and other animals.



New Priorities for Salmon and Steelhead Research

Simmon and stee head research, like other fisher es work in the basin, is carried out by many institutions. In the past research was not coordinated among agencies, and findings were not evaluated or dispersed in any organized way. This has led to gaps in available information regarding salmon and steel head if elevel estand the lability of the fish to survive under differing circumstances.

The Bonne, lie Power Administration and U.S. Army. Cirips of Engineers fund the majority of salmon and steed lead research in the basin. The new program establishes priorities for research with major emphasis or in a ristem plassage protilems. Far it seases in batcher, effectiver less and supplementing natural runs with fixing his scenario hatcheries.

A New Policy for Substituting Resident Fish in Certain Areas Blocked to Migrants

If shifted in notify grate to the ocean in a led resident to income great where summon and steel head runs and to environment of the areas above the Chief is principled areas of the upper Country a Bit enand the Hells Canton Complex on the upper Country a Bit enand the Hells Canton Complex on the explicit of the substitution of the Several residual to the first substitution of the Several residual to the Bit en proposed to the Hells complex reaches and text to a hubbit at wilble.

Progress in Program Implementation

When Congress passed the Northwest Power Act at called for the development of a program to protect and rebuild fish and wildlife populations in the basin as we as annual reports on the progress of that effort. But the Co'umbia River Basin is an enormous (260,000 square miles) and complex social, biological and political system. Program-related efforts to recover lost fish and wild after a difficult to iso ate from other efforts going on both in the basin and along the entire migratory route of the salmon and steelhead.

Much has been accomplished, but translating this progress into actual numbers of additional fish or other species would be extremely difficult at this time. For the past two years, sa mon and stee head runs in the basin have been increasing. While this is a good sign, few people would characterize it as a guaranteed trend. A number of fish stocks are still at very low levels. Perhaps the clearest indication of progress in the basin is the growing cooperation among entities that have been traditional adversaries—power interests and fish and wildlife interests. Their combined efforts, along with the Council's have tallied up a solid list of accomplishments summarized on the following pages.



Mainstem Passage

o single area of concern in the fish and wildlife program is more critical than passing salmon and steelhead safely through the mainstem dams of the Columbia and Snake rivers. Hydropower dams without bypass systems to deflect fish away from turbines kill an estimated 11 percent to 30 percent of the juvenile fish at each project. With adequate bypass systems, turbine mortality can be cut in half

Adequate flows to flush young salmon and steelhead through the system are also vital. If the fish are stalled in reservoirs waiting for water to be released, they may be unable to complete the biological transformation that prepares them to move from freshwater to saltwater

The Council addresses both of these problems in the fish and wildlife program.

Fish passage improvements: Bypass systems are installed or undergoing improvements at Bonneville. John Day, McNary, Little Goose and Lower Granite dams, all operated by the Corps of Engineers. The Corps is developing new bypass systems for The Dalles, Ice Harbor and Lower Monumental dams. Schedules for completion of these projects have lagged, but there is now a basinwide consensus to expedite this work if congressional appropriations can be secured to augment the Corps' budget. The Council, utilities, fish agencies and tribes are working with the Corps and Congress to obtain adequate funding

The public utilities that operate dams in the mid-Columbia are also developing bypass systems or alternative remedies for the five mid-Columbia dams. Priest Rapids, Wanapum, Rock Island, Rocky Reach and Wells dams. This action is a result of an agreement among the utilities, fish agencies and Indian tribes, settling a 10-year dispute regarding safe fish passage at the dams. The parties reached a settlement in 1984 for all the mid-Columbia dams except Rock Island.

In 1987, the fish agencies, tribes and utilities reached an agreement on Rock Island In addition to developing and installing bypass systems, the agreement calls for building a hatchery and spilling water over the dam in spring and summer to protect migrating juvenile fish. Additional information on the Rock Island Dam settlement can be found in the "Legal Activities" section of

this report

Until mainstem Columbia and Snake river projects are properly screened and fish runs are protected, the program calls for spills of water to carry fish over the dams as an alternative to letting them pass through the turbines. Enough spill must be provided to protect at least 90 percent of the juvenile fish passing each project, regardless of impacts on the capability of the power system to produce firm, or contracted, power

Spill has been another source of conflict between fish and power interests, particularly when water levels are above critically low levels. The fish and wildlife agencies and Indian tribes have worked with the Corps of Engineers and utilities to determine spill levels. The Council has tried to assist those groups in achieving a consensus on how much spill should occur and when.

In 1987, the Corps of Engineers, Bonneville and the Columbia Basin Fish and Wildlife Authority, composed of the basin's fish and wildlife agencies and Indian tribes, reached a consensus on levels of additional spills to aid summer migrating fish. The spill agreement was implemented despite extremely low water levels in the Columbia and Snake rivers. The program's spill provision is intended to be an interim solution until permanent bypass facilities to guide migrating fish away from the turbines are installed and operating effectively at each of the dams.

The agreement on summer spill was another example where groups with diverse interests have cooperated in developing methods to assist fish in their migration to the ocean. The Council is continuing to work with those groups to develop long-term spill plans.

Water budget: Young salmon en route to the ocean have a biological time limit. They are physiologically transforming from freshwater to saltwater creatures Once the transformation is complete, they must have reached the sea. Otherwise, they may die in the estuary

The dams store the spring runoff for use later in the year when power generation is required. Storing the runoff slows the fish, stalling them in huge reservoirs where they are exposed to predators, disease and inhospitable water temperatures

Research continues on fish passage problems at the Bonneville Dam second powerhouse. Bonneville is a critical passage point because it is the last project before the ocean, and all surviving migrants that are not transported around the dam must make their way past it. Until the problems are resolved, the second powerhouse can operate only to meet firm power needs, to aid adult fish moving upstream, and to assist in research designed to correct the fish passage problems



chum salmon

To help juvenile salmon and steelhead reach the sea in a timely manner, the Council instituted a "water budget" to increase flows between the dams when the majority of the migrants are in the system. Representatives from the fish and wildlife agencies and basin Indian tribes manage the water budget, which is operated by the Corps of Engineers.

The water budget, which has been used every year since 1983, was not controversial in its first years of operation because flows in the river were well above average 1987 was the first year in which below-average water conditions challenged the ability of dam operators to provide flows strictly for fish. Various interests in the basin met that challenge well.

For the first time since the water budget was instituted, the Idaho Power Company released water in 1987 to contribute to the water budget on the Snake River, under an agreement with the Bonneville Power Administration. When the water budget on the Snake was exhausted and the fish had moved into the lower Columbia River, the Corps, in conjunction with the agencies and tribes, devised a special operation to provide additional flows from Grand Coulee to continue to help the young fish. This special release of water caused a reduction in power revenues for the federal hydropower system and for the mid-Columbia public utilities whose dams are just downstream from Grand Coulee. Those problems are still being resolved.

Juvenile fish transportation: In addition to bypass facilities, the water budget and the interim provision of spills to aid young fish, many stocks, particularly steelhead, can be successfully transported past the dams on barges or in trucks. Fish collection and loading facilities have been completed at Lower Granite and Little Goose dams. The Corps is acquiring additional barges to accommodate the growing number of fish in the system. Transporting spring chinook by barge has not been as successful as steelhead transportation, however, so additional research is needed.

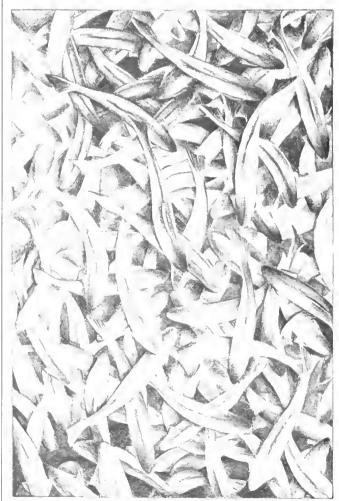
The new fish and wildlife program set an interim goal of doubling the salmon and steelhead runs in the basin.



To help recover the losses of salmon and steelhead in the basin, the program now includes plans to build and operate five new artificial production facilities. The program calls for Bonneville to provide funding for the production facilities described in this section.

coho salmon

■ Yakima and Klickitat production project: Planning is under way for a project designed to supply young fish for seeding in natural habitat in the Yakima and Klickitat river basins in central Washington Most of the fish produced in this project will be spring chinook, but summer and fall chinook, steelhead, coho and some sockeye may be included Construction of the hatchery and





associated facilities for this project will begin after public review and Council approval of a draft master plan outlining the scope and type of production and related management, monitoring and evaluation strategies. As this annual report went to press, the Council was expected to take action on the master plan in October

■ Umatilla hatchery: Construction is expected to begin in Fiscal Year 1988 on the hatchery in northeastern Oregon designed to produce 160,000 pounds of fish (equivalent to about 200,000 summer steelhead and about 1.5 million spring and fall chinook smolts) each year for release in the Umatilla subbasin. The Oregon Department of Fish and Wildlife and the Confederated Tribes of the Umatilla Reservation of Oregon are developing the master plan for this facility. In August, the Council decided to seek public comment on a proposal that could expand the capacity of the hatchery to about 290,000 pounds of fish. Council action on the proposal is expected in October.

work involves clearing or constructing fish passages improving spawning and rearing areas and providing resting pools for upriver migrants

Major efforts are nearing completion in the Yak ma River system, where salmon and steelhead have increased from 2,000 adult fish returning to the Yakima River in 1980 to 12,000 in 1986. Eight irrigation projects have new passage installations in place, and all remaining irrigation project corrections are expected to be completed by the 1989 Yakıma Basın spring migration

In addition to the work occurring in the Yakima, projects have been completed or are continuing in the following basins: the Willamette, Deschutes, John Day, Umatilla and Grande Ronde river basins in Oregon; the Clearwater and Salmon river basins in Idaho; and the Wenatchee River Basın in Washington.



- Pelton fish ladder production: Plans are being developed to partition a 2.8-mile fish ladder, built by Portland General Electric at its Pelton Dam on the Deschutes River in Oregon, into fish rearing ponds. (The fish ladder has been unsuccessful in helping adult fish upstream.) The Oregon Department of Fish and Wildlife and the Confederated Tribes of the Warm Springs Reservation will carry out the planning for the project. About 500,000 juvenile steelhead could be produced each year in the adapted ladder.
- Nez Perce propagation facilities: About 1 million juvenile chinook are expected annually from low-capital propagation facilities on the Nez Percé Reservation in Idaho
- Habitat improvements: A substantial part of the salmon and steelhead restoration involves improving natural production in tributaries to the Columbia and Snake rivers, as mitigation for damages caused by mainstem. dams. In the first five years of the program, 29 projects were completed. An additional 80 are under way. This

Resident Fish

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Blocked areas: In 1987, the Council approved a policy to substitute resident fish, which do not migrate to the ocean, for salmon and steelhead in parts of the basin where hydropower dams block migrations. The Council designated the areas above Chief Joseph Dam in Washington and the Hells Canyon Complex in Idaho as priorities for these substitutions. The Council also approved four resident fish projects above Chief Joseph and eight above Hells Canyon for inclusion in the program

The Washington projects were proposed by the Spokane, Coeur d'Alene, Kalispel and Kootenai tribes with funding expected to come from the Bonneville Power Administration. The Idaho Department of Fish and Game, Shoshone-Bannock Tribes. Oregon Department of Fish and Wildlife and the Shoshone-Paiute Tribes proposed the Idaho projects. Sources of funding for the Idaho projects have yet to be determined



The Columbia River Basin is an enormous and complex social, biological and political system.

- Colville Hatchery: About 50,000 pounds of brook, rainbow and cutthroat trout are expected annually from the new hatchery scheduled for completion by March 1989 on lands transferred by the U.S. Army Corps of Engineers to the Colville Indian Reservation. The hatchery is being funded by the Bonneville Power Administration as partial mitigation for upriver runs of salmon and steelhead cut off by Grand Coulee and Chief Joseph
- Montana resident fish: Resident fish in the Bitterroot River will be provided better summer and fall water levels thanks to an agreement between the Montana Power Company and the Montana Department of Fish, Wildlife and Parks As described in the 1987 Fish and Wildlife Program, the agreement calls for Montana Power funding of a purchase of 10,000 acre-feet of water from the Painted Rocks Reservoir to increase Bitterroot River flows

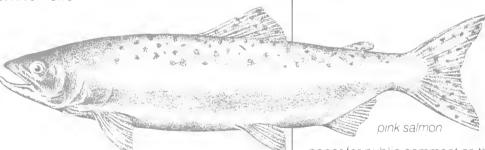
Wildlife

s noted in the section on 1987 program amendments, the first plans for rebuilding wildlife populations harmed by dam operations have been approved by the Council. Land easements and the enhancement of public lands are featured in the plans to bring back. elk, black bear, grizzly bear, terrestrial furbearers, waterfowl, white-tailed deer, mule deer, bighorn sheep and Columbian sharp-tailed grouse. The Council also asked Bonneville to explore the feasibility of creating a trust to fund the wildlife programs at Hungry Horse and Libby dams in northwestern Montana

Estimates of wildlife and habitat lost due to hydropower operations and mitigation plans have also been completed for the Clark Fork projects in Montana; the Palisades, Black Canyon and Anderson Ranch dams in Idaho; Grand Coulee Dam in Washington; and the Willamette Basin projects in Oregon.

Protection from Future Hydroelectric Development

n 1984, the Council initiated an effort to identify areas throughout the Columbia River Basin that should be protected from future hydroelectric development because of their importance to fish and wildlife resources. Data have been collected and reviewed by fish and wildlife and land management agencies, Indian tribes and the general public. Using this information, the four states prepared their recommendations for protected areas. The Council has reviewed these suggestions and was preparing to circulate a discussion



paper for public comment as this report went to press. The Council is expected to take action on the issue in Fiscal Year 1988

Designation of protected areas could help ensure that ratepayer investments in fish and wildlife rehabilitation are not undermined by new development, give clearer signals to potential developers on the importance of fish and wildlife resources, and supply information to the Federal Energy Regulatory Commission so that its hydropower decisions better reflect the interest in the Northwest in conscientious development and environmental protection



POWER PLANNING ACCOMPLISHMENTS

The Northwest Power Plan

The Council's Northwest Power Plan is designed to ensure that the region has an adequate and reliable supply of electrical power over the next 20 years at the lowest cost to the region. Preserving a dependable supply of low-cost electricity is vital to the Northwest's economy. The Council's first power plan was completed in 1983. Because of a number of changes in the regional electrical energy picture, a new plan was adopted in January 1986.

The first element of the power plan is a forecast of future electrical power needs. Recognizing that the future is uncertain, the Council has developed a range of likely power loads that is bounded by high growth (the region's employment would grow at a rate 130 percent faster than the nation's highest projected growth) and by a low growth rate (employment would be 40 percent below the national rate). Within this broad range are medium-high and medium-low projections, and it is within this narrower range that growth is more likely to

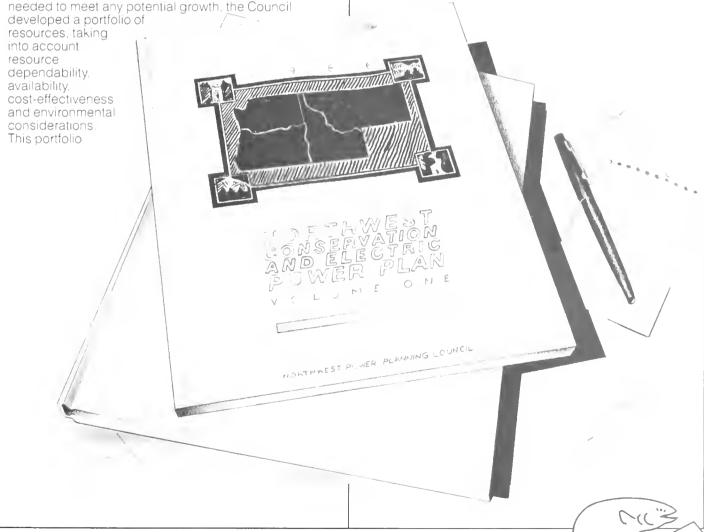
occur

To determine what additional future resources will be

includes a schedule showing what resources must be developed, in what amounts and when. As the regions power demand grows, the most cost-effective resources will be developed first.

In the 1986 Power Plan, the sequence of resources is conservation first, followed by improvements in hydropower efficiency, strategies to better use the existing hydropower system (firming up nonfirm power), new small hydropower development at existing facilities, cogeneration and — the last resource — coal. The plan also calls for research, development and demonstration of renewable resources (for example, solar, wind and geothermal), which do not currently meet the Council's cost limit.

The Council's power plan places heavy emphasis on managing risk to protect the Northwest's energy supply



and to reduce costs. Energy conservation is given priority as the most flexible resource, because it can be developed in increments and "used" almost immediately. Smaller resources with lower capital costs are also preferred for their flexibility.

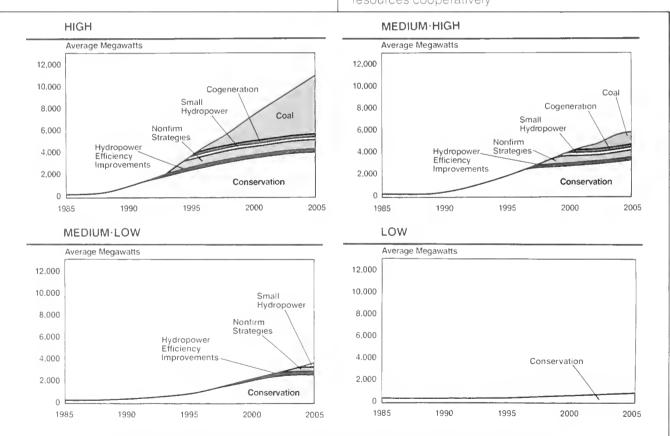
The Council has also developed an "options" approach to resource acquisition. This allows the region to purchase an option on a resource and take it through the relatively inexpensive but time-consuming stages of licensing, siting and design. Then the resource can either be developed, held in reserve or terminated depending on the need for energy. This protects the region from committing huge financial resources far ahead of the determination of actual energy demand

Major Activities in 1987

In January 1986, the Northwest Power Planning Council adopted the Northwest Conservation and Electric Power Plan — a 20-year plan designed to ensure that the Northwest has an adequate and reliable supply of electrical power at the lowest cost to the region. Since then, the Council has monitored both implementation of that power plan and the Northwest's electrical energy situation. The Council's work this year has focused on five main areas: regional cooperation, least-cost energy planning, lost-opportunity resources, the study of the western electricity system and in-region marketing.

Regional Cooperation

egional cooperation is the major theme of the 1986 Power Plan. Through the cooperation of the various electric power interests, the Northwest has the ability to coordinate the development of new resources so that the most cost-effective ones for the region would be developed first. Without this cooperation, some utilities in the Northwest may develop expensive resources, while others will have surplus electricity or access to low-cost resources. The Council identified a \$2 2 billion savings that would accrue to the Northwest over the 20-year planning period if the region develops resources cooperatively







Significant cooperation among Bonneville, the Council and the region's public utility commissions is needed to prevent the region from disintegrating into individual entities, all going their own ways. For example, a few utilities currently are developing new hydroelectric resources rather than buying surplus power from Bonneville. The costs to the region would be less if this development had been deferred until the region needed these new resources

Cooperation is occurring in areas such as acquiring certain conservation resources, planning the future of two unfinished Washington Public Power Supply System nuclear projects (WNP-1 and 3), and coordinating research, development and demonstration projects.

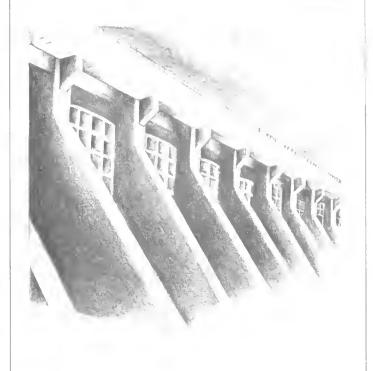
Resource Acquisitions Under the Northwest Power Act, Section 6(c)

n November 1986, the Northwest Power Planning Council and the Bonneville Power Administration each issued complementary policy statements on the implementation of Section 6(c) of the Northwest Power Act. Section 6(c) requires Bonneville to submit major resource acquisition proposals to a public review process to determine whether the acquisition is consistent with the Council's Northwest Power Plan. The Council then has the right to make its own determination of consistency. If either Bonneville or the Council finds a resource inconsistent with the power plan, the resource could be acquired only through congressional action

The purpose of these reviews is to ensure that a major resource is needed and is cost-effective before the Northwest invests a great deal of money in it. The process speaks directly to the balance of power between state and federal interests. The Northwest Power Act expanded Bonneville's authority to acquire resources, but it also gave the states, through the Council, the right to review those acquisitions before committing ratepayers to large expenditures.

The 6(c) issue arose earlier in 1986 when Bonneville proposed its Aluminum Smelter Conservation/Modernization Program. The program was designed to aid the Northwest's troubled aluminum industry by paying for smelter energy-efficiency improvements to help the industry compete more effectively in world markets.

> Progress in power planning in 1987 centered on two concerns that are interwoven in the 1986 **Northwest Power** Plan — cooperation and costeffectiveness.



(About one-third of this energy-intensive industry's costs are for electricity, and the industry provides a quarter of Bonneville's revenues.) The program could conserve up to 130 megawatts of firm (guaranteed) power and 43 megawatts of nonfirm (interruptible) power

The Act identifies the "major" resources that are subject to review as those over 50 megawatts and having more than five year's duration. Originally, Bonneville did. not submit the proposed program acquisition for review on the grounds that the energy savings acquired from any single smelter would not exceed 50 megawatts. After extensive discussions with the Council, Bonneville agreed that a conservation program, such as the Conservation/Modernization Program, is subject to review if it proposes to acquire more than 50 megawatts of energy savings from logically related activities in a single sector through contracts offered as part of an



After those November policy decisions, the Conservation, Modernization program became the first Bonneville acquisition to undergo Council review in accordance with Section 6(c). When the public review period was over, the Council voted unanimously on March 18, 1987, that the program was consistent with the power plan. This decision was based on the fact that the program provides a low-cost conservation resource. Also, by preventing the potential loss of Bonneville's aluminum industry customers, the program will help stabilize Northwest electricity rates and reduce the impact of rate increases in the long term.

Washington Public Power Supply System

In the 1986 Northwest Power Plan, the Council analyzed the value of two unfinished Washington Public Power Supply System nuclear projects — WNP-1 at the Hanford nuclear reservation and WNP-3 near Satsop, Washington. The plants have been in a preservation status since 1982 (WNP-1) and 1983 (WNP-3) when construction was stopped. The Council found them to have an expected value to the region of \$630 million as potential resource options, but only if they can be preserved for at least 10-15 years and preservation costs are at minimum levels.

The Washington Public Power Supply System had assumed that the plants would be restarted within a year or two and maintained a large support staff (approximately 500 full-time employees). The Council's analysis convinced the Supply System and the Bonneville Power Administration that the plants were not needed in the near term and should be prepared for a long preservation period. As a result of its analysis, the Council determined that one plant should be designated a lead plant because the need for two plants is remote.

The analysis also showed the Supply System and Bonneville that the biggest problem associated with preserving the plants was maintaining public utility support for preservation. The Northwest's public utilities will pay most of the preservation costs, but probably will not need the power the plants would produce.

The Council identified reduction of preservation costs as the key factor in maintaining the support necessary to preserve these potentially valuable options. Since the power plan was developed, the Supply System dropped preservation costs from approximately \$75 million per year to about \$10 million per year and reduced staffing to fewer than 110 full-time employees.

In October 1986, the Council accepted a petition from Senator Al Williams, chairman of the Washington state Senate Energy and Utilities Committee, calling for the Council to continue to evaluate the value of the two projects. In accepting the petition, the Council committed to monitor closely an ongoing imajor Bonneville study of the plants (part of Bonneville's 1987 Resource Strategy) and to decide whether to reassess the plants based on that study and on the Council slown analysis

The Council is working to eliminate uncoordinated resource development that could prove costly to the region and harmful to the economy and the environment.

Bonneville's analysis of the projects' value showed that the continued preservation or "mothballing" of the plants would result in expected economic benefits to the Northwest of \$640 million. Bonneville's analysis also found that continued preservation was preferable to either termination or completion of the projects.

The Council reviewed Bonneville's data and assumptions along with the Council's own analysis in the 1986 Power Plan. Based on its latest review, the Council concluded that the two projects retain approximately the same potential value to the Northwest (\$625 million) as was published in the 1986 Power Plan (\$630 million).

Research, Development and Demonstration

Analyzing the availability, cost and performance of promising resources typically requires a series of research, development and demonstration activities. The Council is working with Bonneville, the utilities, state energy officials and public utility commissions to develop a process to determine which projects should receive funding for those activities and to coordinate the region's research and development expenditures. As a first step, the Council formed a Research, Development and Demonstration Advisory Committee in September 1986. The committee is expected to recommend to the Council comprehensive research, development and demonstration needs to ensure that conservation, renewable and high-efficiency energy resources are available when the region needs them.

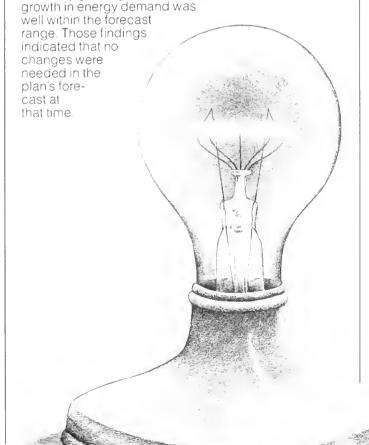


Least-Cost Energy Planning

The Northwest Power Plan emphasizes that the future is uncertain, and resources must be chosen to meet the needs of a wide range of possible future conditions at the lowest possible cost. This is the essence of what has come to be called least-cost energy planning. The Council has led the nation in pioneering this type of energy planning.

The Council is working with the Northwest's public utility commissions and will continue to assist them as they review long-range plans for the Northwest's utilities. A state agency advisory committee, composed of public utility commissioners and staff members, meets regularly with Council staff to discuss issues of mutual interest including least-cost planning. The Washington Utilities and Transportation Commission is implementing least-cost planning in its state. Other parts of the country also are examining the Council's planning methods as a way to keep energy costs manageable.

To ensure that the power plan remains relevant for the Northwest, the Council constantly monitors changing conditions in the Northwest's economy and energy demand that could affect the power plan. Major changes could signal the need for amendments to the plan. The most recent analysis showed the Northwest economy growing moderately and steadily, while



An advisory committee was reorganized in September 1986 to assist the Council and its staff in identifying significant changes in the Northwest's economic and demographic conditions. This Economic Forecasting Advisory Committee will help evaluate newly available forecasting tools and methods as well as identify sources of economic data and other information.

Lost-Opportunity Resources

The Northwest currently has a large surplus of electricity, so the only resources that should be acquired are those that represent lost opportunities, that is, those that will lose their cost-effectiveness or not be available unless they are developed now. For example, a building will use electricity for decades. If energy-efficiency measures are not installed during construction, it may be physically impossible or uneconomical to install those measures later.

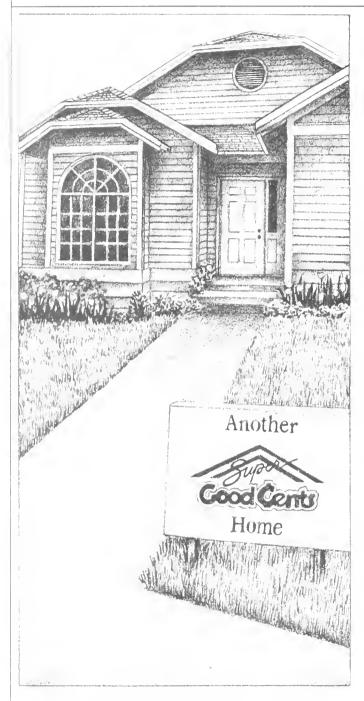
Model Conservation Standards

The lost-opportunity resource that the Council has emphasized so far is the conservation achieved by constructing energy-efficient buildings. The Council's model conservation standards set energy-efficiency levels for new electrically heated homes and all new commercial buildings. They have the potential to save the Northwest up to the equivalent of 1,200 average megawatts of electricity over the next 20 years — more than enough to supply the electricity needs for a city the size of Seattle.

The standards are a major part of the Council's long-term plan to meet the Northwest's growth in demand for electricity at the lowest possible cost. Conserving electricity by making buildings more energy-efficient costs less than building new coal or nuclear plants to supply the amount of electricity that can be saved through conservation.

The Council has provided significant assistance to governments and utilities implementing the standards. The standards can be implemented by being adopted as energy-efficient building codes. Thirteen cities and counties in Washington and 10 in Idaho have adopted codes that meet the Council's standards. Major statewide building code upgrades have occurred in Washington and Oregon. Washington's new code provides 59 percent of the model standards level savings in the Zone 1 climate in western Washington and 50 percent in Zone 2 in eastern Washington. Oregon's code currently provides 32 percent of the savings, increasing to 58 percent in 1989





In addition, the Super Good Cents marketing program, operated by Bonneville, has been developed to encourage builders to build voluntarily to the model conservation standards levels. Currently, 80 electrical utilities in the Northwest participate in the marketing program. More than 1,000 Super Good Cents homes have been completed or are under construction, and more than 3,000 builders have been trained in Super Good Cents construction and

The Council also has encouraged the development of demonstration projects like the residential standards demonstration project and the residential construction demonstration project. These demonstration projects provide the Northwest with important information on energy-efficient buildings

Finally, the Council is working to inform lenders and appraisers about the energy saving features of Super Good Cents houses and to influence how these features are considered in lending decisions.

Other Resources

The Council also recognizes that other opportunities for acquiring cost-effective resources are probably being lost. Examples include: major changes or renovations in existing buildings or industrial facilities or upgrades and improvements in water and sewer systems. As these kinds of changes are being made, the Northwest has a one-time opportunity to ensure that newly installed equipment is at the maximum cost-effective level of efficiency.

In addition to working with builders and the construction industry, the Council has been studying the opportunities for conservation in the manufactured housing industry, which accounts for nearly one-third of the Northwest's new housing starts. Approximately 75 to 115 average megawatts might be saved in the Northwest if the energy efficiency of these homes built over the next 20 years is increased to the efficiency levels of traditional site-built housing. The Council estimates that if these manufactured homes were built to the efficiency levels of the model conservation standards, the region would save between \$645 million and \$925 million over 20 years.

The Council supported federal legislation to raise energy-efficiency standards significantly for manufactured housing. The Council also supported a proposa from the U.S. Department of Housing and Urban Development to remove the agency's current thermal performance standards from its Manufactured Home Construction and Safety Standards. State and local governments would then be permitted to establish their own thermal standards.

Appliance Standards

nother area being monitored is appliance efficiency In the 1986 Power Plan, efficient appliances are considered among the most cost-effective resources available to this region — costing about one cent per kilowatt-hour. In 1986, national efficiency standards for major household appliances were passed by Congress and vetoed by President Reagan In 1987 Washington Senator Dan Evans sponsored similar egisation, which was passed by Congress and approved by the president. The Council encouraged passage of the standards, although they were not as energyefficient as those identified in the power plan. The national standards could save the Northwest approximately 510 megawatts if high economic growth occurs. about 235 megawatts less than the estimated savings from the standards identified by the Council.



Model Conservation Standards Amendments

In January, the Council amended its model conservation standards to reflect a consensus among Bonneville, Northwest utilities, and state and local governments. The changes were made in response to new data and analysis showing better cost-effectiveness and performance of current building techniques.

The revised standards are now more flexible, are more easily implemented by builders and utilities, and have achieved levels of energy efficiency comparable to the first standards passed in 1983. In amending the standards, the Council emphasized maintaining indoor air quality. The revised standards have improved participation in Bonneville's programs to encourage implementation of the model conservation standards.

Petitions on the Model Conservation Standards

Three petitions were received by the Council in 1986 to expand the coverage of the standards. Two of these petitions were from Citizens for an Adequate Supply of Energy (CASE) asking for model conservation standards for industries that buy power directly from Bonneville (direct service industries) and for Bonneville's federal agency customers. The Natural Resources Defense Council and the Northwest Conservation Act Coalition also petitioned to revise the model conservation standards for commercial buildings, residential weatherization and space heat conversion.

In January, the Council granted CASE's request to conduct an assessment of the possibility for increasing the amount of interruptible power supplied by Bonneville to the direct service industries (primarily aluminum smelters) as an alternative to new resource development. Currently, the top quarter of the aluminum industry load is interruptible. Consideration of standards for these industries would be deferred until after this assessment.

In March, the Council voted to adopt two amendments to the power plan dealing with the model conservation standards. One amendment calls on Bonneville to encourage federal agencies in the region to build all new federal buildings in the Northwest to the model standards. The amendment also applies to federal buildings converting to electric space conditioning.

The other amendment states that a surcharge to enforce standards for existing buildings converting to electric space conditioning is not appropriate at this time. The Council will study the effects of such conversions on the power system before the next major revision of the standards.

General Model Conservation Standards

The Council is considering an amendment to its power plan that would describe general model conservation standards for all of the sectors and enduses of electricity not already covered by a standard in the plan. Public hearings were conducted in each state during August and September. A final decision on the amendment is scheduled for the Council meeting in October.

The proposed amendment recommends that, during the Northwest's current period of electricity surplus, conservation activities that can be deferred without detrimental consequences should be. In the event that a government or a utility chooses to carry out conservation activities during this period, the proposal sets forth objectives to ensure that the activities are cost-effective to the Northwest and do not create further lost opportunities.

Commercial Model Conservation Standards

The Council is in the process of updating the standards for non-residential buildings. The review began in spring and will culminate, by the fall of 1988.

in a Council decision on potential revisions to the standards for new righters dential buildings.

There are several reasons for this review. First, since the Council adopted its standards for new non-residential buildings, both Oregon and Washington have revised their energy codes. While these new codes did not adopt all of the provisions of the standards, they may achieve comparable savings by specifying lighting budgets that are more stringent than the Council's for some building types. The Council's review is intended to determine whether additional measures should be included in its present standards as a result of the actions of Oregon and Washington.

Other reasons for the review include a U.S. Department of Energy proposal for mandatory energy conservation standards for new, government-owned, non-residential buildings, the revision by the American Society of Heating. Refrigerating and Air-Conditioning Engineers (ASHRAE) of its energy conservation standards. the California Energy Con mission's review of its commercial energy conservation standards, and new lighting technology that may be more cost-effective than that currently specified by the standards.

Analysis of Conservation Measures

In response to Section 4(k) of the Northwest Power Act the Council has conducted a thorough analysis of conservation measures and resources implemented since the Act was passed in 1980. The study assesses whether those measures 1) have resulted in costs to consumers in the Northwest greater than the costs of additional generating resources. 2) have been equitably distributed to a consumers in the Northwest, or 3) have impaired the ability of the Bonneville Administrator to carry out his obligations. As this report went to press, the Counce was preparing to take final action on the report, which must be submitted to Congress by October 1, 1987.

Western Electricity Study

This spring, the Council began a study to build an understanding of the western electricity system among those involved in the Northwest's power planning process. The Council recognized that electricity systems in the various regions of the West are becoming nore and more interrelated as utilities seek to improve revenues and reduce costs through cooperative power arrangements. Conditions in other regions of the western United States and Canada could have in portant effects on the Council's planting activities for

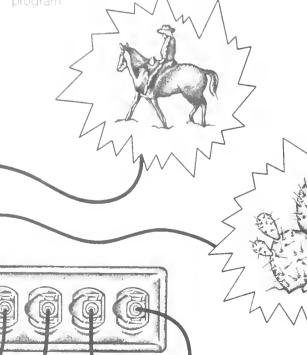
The Western Electricity Study is designed to open communication lines with other groups in the West that are involved in the power system. With an understanding of the interrelationships in this system, the Council can better plan for the electricity needs of the northwestern United States.

Work from the first phase of the study is featured in a series of educational briefing papers that are being developed on the important characteristics of the western electricity system. In the second phase of the study, Council staff will explore individual issues that relate to the power plan.

In-Region Marketing

any Northwest utilities are currently developing or implementing aggressive marketing programs to sei more electricity inside the Northwest. Most of these programs are primarily designed to encourage consumers to switch from natural gas, oil or wood to electricity. The Council has been interested in these power marketing activities to ensure that they do not contradict the objectives of the Northwest Power Plan.

The Bonneville Power Administration presented a status report in March on its in-region electricity marketing program. The marketing program is intended to use the current power surplus to benefit the Northwest economy while stabilizing Bonneville's revenues. While the program could further the power plan's theme of regional cooperation by marketing electricity to industries or others that might become stable and efficient long-term utility customers, the Council is concerned about other potential long-term impacts of the marketing program. At the time this report went to press, the Council was preparing to



CONGRESSIONAL ACTIVITIES

The Council's congressional activities in 1987 can be categorized in three main areas itestifying before Congress, updating the congressional delegations on power, fish and wildlife issues in the Northwest and responding to requests for information from congressional offices. For example, in response to a request about the Reagan administration's proposal to accelerate Bonneville's schedule for repaying its federal debt for hydroelectric development, the Council estimated that the first-year impact of that proposal on wholesale rates in the Northwest would be a 12-percent increase. The Council stated its belief that such an increase could have an adverse effect on the Northwest's recovering economy.

Fish and Wildlife Issues

The Council testified on the budgets of several federal agencies responsible for implementing parts of the Columbia River Basin Fish and Wildlife Program In April, the Council presented testimony before the Subcommittees on Energy and Water Development for the U.S. House and Senate Committees on Appropriations on the budgets of the U.S. Army Corps of Engineers, the Bonneville Power Administration, the Bureau of Reclamation, the Federal Energy Regulatory Commission and the National Marine Fisheries Service

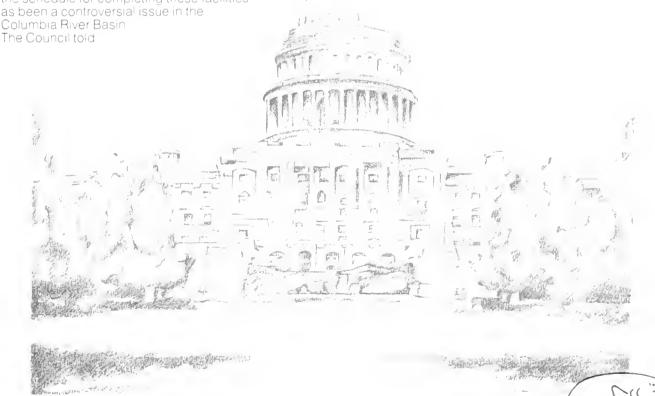
Of primary concern to the Council was the \$2 million in the Corps of Engineers budget for the installation and improvement of fish bypass facilities at Corps of Engineers dams — considerably less money than has been available in previous years. Delay in the schedule for completing these facilities as been a controversial issue in the Columbia River Basin.

Congress that dams without screens to deflect fire away from the turbines will kill 11 percent to 30 percent of the luvenile fish at each project, but that adequate bypass screens could cut turbine mortality, evels in haif

The Council has worked to develop a consensus among utilities, tribes, fish and wildlife interests and Bonneville on the need for expedited completion of bypass facility improvements at Little Goose. Lower Granite, McNary and Bonneville dams and for new facilities at Ice Harbor Lower Monumental and Tile Dalles dams. The groups have agreed to a schedule for completing those facilities. Without additional funds the Corps will be unable to meet that schedule.

The Council estimated that the Corps Fiscal Year 1988 budget would need an additional \$20 million plus \$2 million transferred within its Fiscal Year 1987 budget in order for the Corps to meet the construction schedule. Congressional deliberations on these funding requests were continuing as this report went to press.

The Council a so opposed budget cut proposals affecting the National Marine Fisheries Service operations budget for 24 hatcheries in the Columbia Basin The Council noted that those hatcheries account for half the basin's salmon and steelhead production releasing nearly 100 million juvenile salmon and steelhead into the Columbia system.



In 1987, the Council made progress in helping the region move toward common objectives.

On the Bureau of Reclamation's budget, the Council reaffirmed its commitment to the Yakima River Basin as a high priority for fish enhancement projects in the Columbia River Basin. The Council stated that the \$7 million set aside in the Bureau's budget for those projects appears to be adequate but expressed the belief that funding should be on a line-item basis. The Council also supported adequate funding for both studies on the Yakima River Basin Water Enhancement Project and advance planning on the Umatilla Basin Project - two important efforts to promote sound water use and fisheries enhancement

The Council also followed closely the Electricity Consumers Protection Act, which involved the relicensing of hydroelectric facilities. The Council expressed concern about the effect of the legislation on the Northwest Power Act. But in adopting the relicensing bill, Congress included provisions to ensure that the legislation should not modify or weaken the Northwest Power Act. The relicensing act requires the Federal Energy Regulatory Commission to consider comprehensive regional plans in making decisions on the licensing and relicensing of hydroelectric projects

Federal budget deficits leave the outcome of fish and wildlife funding in doubt this year. When this report was written, Congress had not yet taken final action upon the funding requests described in this section

In addition to testimony, the Council also provides periodic updates to Congress on the Council's progress on fish and wildlife issues

Power Issues

n May, the Council appeared at the invitation of the In May, the Council appeared at the House Subcommittee on Energy and Power to explain the Council's innovative least-cost energy planning strategy, which has attracted interest in other areas of the country

In 1987, the Council also testified before the Subcommittees on Energy and Water Development of the U.S. House and Senate Appropriations Committees on proposed cuts in the Bonneville Power Administration's energy conservation budget. Noting that the budget had been reduced from \$108 million to \$81 million, the Council testified that the lower level might be sufficient to carry out Bonneville's conservation efforts if they were focused on areas such as promoting energy efficiency in new buildings. The Council described the importance of Bonneville's assistance in putting the Council's model conservation standards into effect

In written testimony submitted to the Subcommittee on Energy and Research Development of the House Committee on Science, Space and Technology, the Council provided its views on the role of renewable energy resources in planning for future energy needs in the Northwest.

During the year, the Council provided congressional offices with background information on Northwest power issues and responded to inquiries from those offices. Assistance also included providing general publications including issue papers, background material and power plan drafts. Those activities helped keep congressional offices informed of progress in implementing the 1986 Power Plan.



PUBLIC INVOLVEMENT ACTIVITIES

The Council's Public Involvement Philosophy

The Council takes its public involvement obligation seriously Not only does the Northwest Power Act mandate that the Council carry out a public involvement program, but the Act repeatedly emphasizes the need for broad public participation in Council activities

References to this obligation are found in a variety of places. One of the most prominent references appears under the purposes of the Act, Section 2(3), which stipulates participation of both specific groups (states, local governments, consumers, federal and state fish and wildlife agencies. Indian tribes) and the general public. In the Act's most emphatic statement on the subject, Section 4(g)(1) mandates the establishment of a "comprehensive" public involvement program to both inform the public and obtain public views on Council activities.

Perhaps the best term to apply to the Council's program is "affirmative action." The Council does more than provide information on request. It initiates materials and activities designed to promote public interest.

The Council also recognizes that the technical subjects it deals with, while extremely important to citizens of the Northwest, are often complex and unfamiliar to the lay person Therefore. the Council makes a special effort to: 1) provide education about issues and 2) produce written materials and oral presentations that are

clear and graphically illustrated and contain a minimum of technical jargon. The goal is to provide opportunity and encouragement for all members of the public, not just vested interest groups, to participate in the Council's work

The Council also makes an effort to be accessible Each Northwest state has its own Council office. The Council invites both oral and written comment with no red tape. The Council accepts a variety of forms of comments ranging from testimony at meetings to handwritten letters to phone calls on its toll-free lines

At any time during normal working hours, individuals can phone the Council's public involvement division to request information or materials and receive prompt service. All members of the division keep abreast of Council issues and can either answer questions directly or refer callers to the best person to provide the needed information.

Opportunities for comment, the Council's toll-free numbers and address are widely publicized in free Council publications and through the media. The Council advertises in major regional newspapers and magazines to solicit names for its extensive mailing



Perhaps the best term to apply to the Council's public involvement program is "affirmative action."



Public Involvement Procedures

Council her is a streem ade in this that meetings which rotate among the four states and are open to the plubid. The decision process heading with the publishing of a staff draft issue player. Normally this is followed his a written plubid comment period of one munth la though some comment periods for major as a ments range up to three months. These issue players are presented complete with a descriptive side show in an open nieeting. The following month, the Council takes public testimony in a second open meeting. It is not until the next month that the Council makes a decision in a third open meeting.

At each meeting in the sequence if the Council offers a public pomment period. A decision is made only after taking into account the public testimority and written comment. Throughout the process, the Council not fies the public of apportunities for comment in its meeting agendas and newsletter "Up Jale", and publishes informational and readable features about our rent Councilissues in its magazine. Northwest Energy, News. These plus cat take are circle atted to thousands of Northwest at agest too afford.

Wrienever the Council or dertakes a complete review and amendment of its power plan or fish and wildlife program, the process begins with a series of issue papers, each of which goes through the public involvement process described above. The Council then circulates a draft power plan or draft fish and wildlife program based on those issue papers and the preliminary decisions made following the public involvement process. Then the process begins an excitating with yet another rour diet public involvement.

The public review of the draft document takes three months. During this period, the Council provides extensive apportunity for multiplication. The Council not as a hearing in each of the four North west states. They all earlings are wide youth located.

Other act. Thes include working with public advisory on mittees, and consultations with and presentations for a interested parties. Monthly Quono in eetings offer provide a forum for purel presentations on major energy, and fish and wild felissues. Media packets and media briefings are also prepared. During development of the 1986 Power Plan, the Qounou spent approximately. \$100,000 or all Lerticing to educate ratepayers about the process and encourage participation. The function participation and \$300,000 to a contract of the total dentity. The contraction of the encourage participation and the contraction of the encourage participations there are not somethings and the Quino.

Entrope trice processing and the fish and widthe program referebed by that to be a pestron the draft common the common tensor treatment and the common treatment and the co

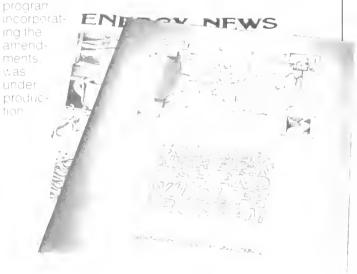
Major Public Involvement Activities in 1987

Fish and Wildlife Program Amendments

Special public involvement activities were geared to key Council activities for the year. The major activity was the Council's extensive amendment of its Columbia River Basin Fish and Wildlife Program, a job that began in 1985 and culminated in 1987. Prior to last year, the Council had publicly called for recommendations for its fish and wildlife program, had published a five-volume set of the recommendations as well as a summary, and had published a draft amendment document. More than 900 people requested and received copies of that document.

A 90-day period, ending December 15, 1986 was provided for public comment on the draft amendments. Hearings on the proposed fish and wildlife amendments were held in all four states in October Those hearings were publicized in paid advertisements. Council publications and media releases. The Coluncil also held consultations on the amendments with 28 groups. For a list of those groups, see Appendix C.

As a result of those efforts, the Council received 178 comments on its draft amendment document. Comments came from federal and state fish and wild life agencies, Indian tribes the Bonneville Power Administration and other federal agencies, utilities, recreation and environmental organizations and private individuals. The Council adopted the amendments in February 1987 and within two weeks had published a final amendment document. This document was supplied on request to any individual or organization as a working copy of the amendments while the full





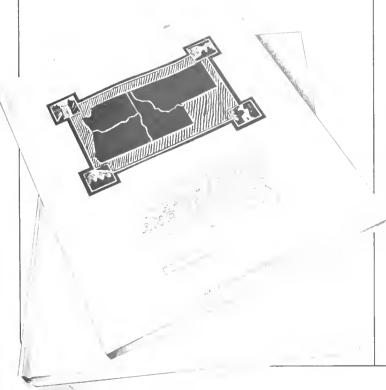
The completed 1987 Columbia River Basin Fish and Wildlife Program was published in August. It was edited and rewritten for clarity and cohesion, with particular emphasis on introducing each section with educational background. The final document was sent automatically to known interested parties and to anyone else who expressed interest in the amendments, either through requesting documents or submitting testimony. Its availability also was advertised in Council publications and the general media

Other public involvement activities associated with the fish and wildlife amendments included a regular column on the amendments and educational stories on key amendment issues in the Council's magazine, Northwest Energy News. The Council also published one-page backgrounders on major amendment issues as well as a backgrounder on how to submit comment. All public comment on the amendments was recorded in the administrative record and is available to the public.

Media briefings and media packets were used throughout the amendment process. These, along with paid advertisements, provided regionwide publicity about the fish and wildlife amendments.

Subbasin/System Work Plan

With the adoption of its new fish and wildlife program, the Council began the process of developing a work plan for its subbasin planning effort. The 31 individual subbasin plans will be integrated into one overall systemwide.



The Council takes its public involvement obligation very seriously.

plan The Council reported the availability of the draft subbasin work plan in its newsletter as well as a mailing to key fish and wildlife groups. Anyone could request a copy by calling the toll-free numbers listed. The draft subbasin work plans were first presented at the Council's public meeting in Wenatchee, Wash . in May Public comment was taken on the draft work plan at a public meeting in Ashland. Ore . in June. Finally, at a public meeting in Post Falls, Idaho, in July, the Council adopted the work plan.

Model Conservation Standards Amendments

In the power planning area, the major public involvement activities for the Council this year involved the amendments to the model conservation standards. The public involvement part of the process began in the spring and summer of 1986, when members of the Council held discussions with a cross section of the home building industry around the region. At that time the Council invited builders, door and window manufacturers and others to join in informal discussions about the standards. The Council initiated these discussions to get a direct reading from the industry on the Council spromotion of energy efficiency throughout the region.

Based on those meetings and other discussions with interested parties, the Council began considering a review of the standards. In November, after the results of the thermal and ventilation performance of homes built under the Residential Standards Demonstration Program became available, the Council moved to initiate a rulemaking procedure to amend the standards. Shortly thereafter, the Council launched an aggressive effort to inform the region on the proposed change and to consult with interested parties during the public comment period

The Federal Register notice of the rulemaking and the proposed amendment were mailed to interested parties in November A visual presentation was used by Council members and staff in meetings across the region. A short information sheet describing the proposed.



amendment and the opportunities for comment was prepared for use at meetings. Public hearings were scheduled, and notice went out to the region through Council mailings and news releases.

Written comments were accepted through December 22, 1986, and oral comments and consultations were accepted through January 9, 1987. In addition to public hearings in all four states, the Council initiated numerous consultations with interested parties.

During the comment period, the Council received written and oral comments from nearly 60 groups and individuals. The verbatim written transcripts of oral comments presented at the public hearings amounted to approximately 425 pages, and more than 70 written comments were received. These comments and the Council's response have been summarized in the "Model Conservation Standards Response to Comments," published by the Council in March 1987.

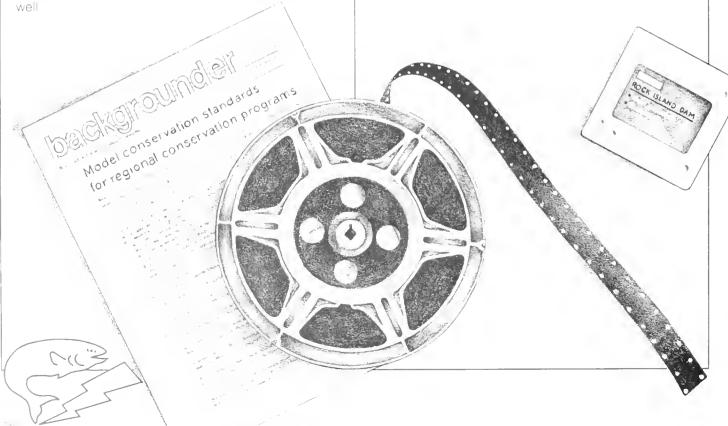
The rule amending the standards was adopted by the Council in January. This triggered another public information and involvement effort to work with local governments, utilities and builders to resume implementation of the standards. This activity continued through the year, involving most of the same parties who participated in the rulemaking. It also includes written materials, visual presentations, and extensive liaison and outreach activities.

A second public involvement process, involving another proposed amendment to the model conservation standards, was in process at the time this annual report was being prepared for printing. It involved a proposal to adopt a general standard for those conservation activities not already covered by model conservation standards. The Council was undertaking the public involvement steps outlined above for this rulemaking as

Ongoing Public Involvement Activities

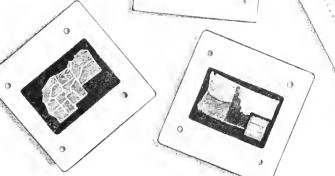
any ongoing public involvement activities are aimed at increasing regional understanding of the Council's work specifically and Northwest power and fish and wildlife issues in general.

- Public liaison: A staff position with the title "public involvement coordinator" maintains an information and coordination liaison on Council issues with a number of interest groups around the region, including: cities, counties, local government associations, conservation groups, state energy offices and public utility associations. This involves a full range of activities, including initiating contacts, providing information, responding to requests, ad hoc problem solving, participation in meetings and public speaking. The public liaison has had a key role in helping local governments implement the Council's model conservation standards for energy efficiency in new buildings. A new charge added to the position is the emphasis on identifying underrepresented groups and encouraging their participation in Council activities.
- Advisory committees: These committees, made up of interested parties and experts on key issues, meet regularly to advise the Council. Each advisory committee is set up to focus on a specific current project or issue and to develop information and recommendations for the Council on this subject. As the issue is decided or the project completed, the advisory committee is disbanded. New committees are formed as new activities come up. This allows a number of people to become involved in advising the Council and gives the Council the advantage of a wide variety of expertise [See Appendix D for a list.]



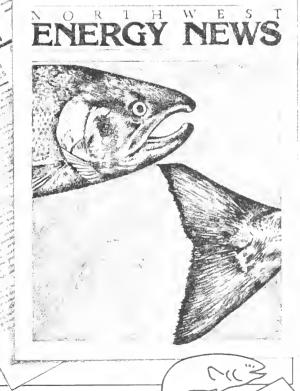
- Magazine: The bimonthly magazine, Northwest Energy News, has won an award for excellence for the past three years. This 32-page magazine carries feature stories about issues relevant to the Council's work in easy-to-read, non-technical language. The circulation has grown to 17,000.
- Newsletter: A monthly newsletter. *Update!*. carries current events, notice of all Council meetings (including advisory committees) and publications available. Toll-free numbers to order materials or call for information are displayed prominently. Circulation is 12,000.
- Agendas: Agendas of all general Council meetings are mailed to everyone on the *Update!* list. Agendas of advisory committees and other work groups are sent to key interested parties and anyone else by request.
- Backgrounders: The Council publishes short, lay summaries of all major issues. These *Backgrounders* are provided for each agenda item and are available at all Council meetings.
- Other publications: More than 30 new reports, issue papers and other publications were made available to the public in Fiscal Year 1987. In addition, other documents published in previous years, such as the Northwest Power Plan, continued to be available. A list of documents is provided in Appendix E.
- Media information: Comprehensive media packets are prepared and sent to all members of the media in the vicinity of each Council meeting. All Northwest media receive copies of the meeting agendas. Media

briefings are held regularly to update both reporting and editorial staffs of newspapers, radio and television.

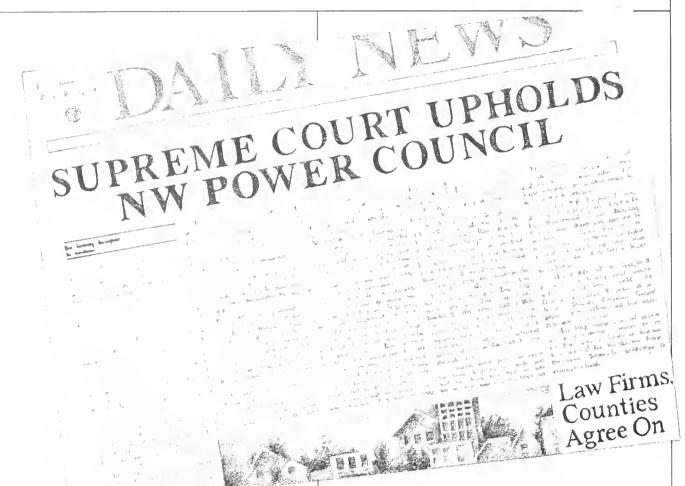


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- Article placement: Feature articles written by the Council's public information/involvement staff are placed whenever possible in regional publications. In 1987, articles about the Council's work appeared in several publications, including Hydro Review, Northwest Ruralite, The Trout and Salmon Leader, Idaho Outdoor Digest, High Country News, Fine Homebuilder, Progressive Builder, The ASHRAE Journal and the Energy Conservation Coalition's National Information Packet. Reprints of these and other articles about the Council are available upon request
- Slide shows: The public information/involvement staff produces full-color, graphic slides for all Council meetings and many other presentations to facilitate understanding of complex issues. Hard copies of the slides are available to the audience.
- Public library: The Council maintains a library at its central office open to the public. Materials include administrative records of all amendments to the power plan and fish and wildlife program as well as general reference materials and periodicals on power and fish and wildlife issues.
- Films: The Council provides films and video cassettes to any individual on request. One film explains the Council's power planning strategies, and the other explains the region's efforts to rebuild fish and wildlife populations. Copies have been given free of charge to libraries, schools and agencies that use the films frequently



LEGAL ACTIVITIES



Litigation

n 1987, the major legal challenges to the Council's authority and programs came to an end, and the legal division was able to direct increased effort toward assisting with the implementation of the power plan, fish and wildlife program and model conservation standards. At this time, the Council is not involved in any

Seattle Master Builders Association v. Northwest Power Planning Council: In January, the United States Supreme Court refused to review a decision of the U.S. Court of Appeals for the Ninth Circuit upholding the constitutionality of the Council and the Council's model conservation standards. The Supreme Court's action ended four years of litigation and left standing a Ninth Circuit

The Ninth Circuit had ruled for the Council on all issues. With respect to the model conservation standards, the court held that the Council had adopted a proper approach in determining the cost-effectiveness of proposed measures and in determining conservation value On the constitutional question, the Ninth Circuit held that the Council "violates neither the compact nor the appointments clauses of the United States Constitution" and that the Northwest Power Act "establishes an innovative system of cooperative federalism

A related case, known as Master Builders II. was filed in 1985 to challenge certain amendments to the Council's model conservation standards. This second case was placed on hold in the Ninth Circuit until the United States Supreme Court acted in Master Builders I. The case has now been dismissed

In 1986, two other actions were filed in the Ninth Circuit challenging the sufficiency of the Council's model conservation standards. In both instances, the parties worked cooperatively with the Council to resolve the disputed issues, and the Council agreed to enter further rulemaking on certain issues relating to the model conservation standards. In exchange for the Council's agreement to enter rulemaking on these issues and regardless of the final result of the rulemaking, the parties agreed to dismiss their challenges. Thus, Northwest Conservation Act Coalition et. al. v. Northwest Power Planning Council and CASE et al. v. Northwest Power Planning Council are no longer pending



A spirit of cooperation also prevailed in an action filed with the Federal Energy Regulatory Commission by the National Marine Fisheries Service and the Yakima and Colville Indian tribes. The action challenged the adequacy of fishery protections at Rock Island Dam, a facility operated by the Chelan County Public Utility District. After years of legal proceedings, the parties reached a settlement agreement in 1987 calling for a series of experiments and improvements at Rock Island Dam over the next decade. Because the settlement did not precisely match the provisions of the Council's 1987 Fish and Wildlife Program, the Council amended its program to incorporate the settlement agreement.

Government in the Sunshine Act

S ection 4(a)4 of the Northwest Power Act provides that the Council is subject, to the extent appropriate, to the federal laws that apply to the Federal Energy Regulatory Commission with respect to open meetings. The following summary is supplied to Congress in compliance with the open meetings policy of the Council and Section 4(g) of the Government in the Sunshine Act. Between October 1, 1986, and August 14, 1987, the Council conducted a total of 15 public meetings. At least one more public meeting was scheduled for September as this report was being printed. Limited portions of the following meetings were closed to the public in conformity with the requirements of the Sunshine Act for the reasons stated

October 15, 1986 Moscow, Idaho

civil litigation and personnel matters

November 12, 1986

Portland, Oregon civil litigation and personnel matters

December 10, 1986 Seattle, Washington

civil litigation

April 9, 1987

Missoula, Montana civil litigation

July 8, 1987

Post Falls, Idaho internal personnel matters

The Council also held four entirely closed meetings on January 27-28, 1987, March 5-6, 1987, and August 25-26, 1987, to discuss internal personnel matters and on July 22, 1987, to discuss matters where premature disclosure would have frustrated agency action.

In 1987, the major legal challenges to the Council's authority came to an end.

In addition, the Council revisited the subject of effective notice of Council meetings and actions. The Council was advised that Federal Register notices were not providing timely notice of Council meetings and agendas. both because of the mailing time required and because most persons interested in Council actions are not subscribers to the Federal Register Accordingly, the Council expanded its newsletter Update!, which emphasized publication of complete and timely summaries of upcoming meetings. As this report was completed, the Council was expected to decide in September whether to use the newsletter to provide official notice of Council meetings.



ADMINISTRATIVE ACTIVITIES

he Council's work is performed, depending on the tasks, either by the Council's professional staff or public agencies or by Indian tribes under intergovernmental agreements. Consultants under contract are also used on a limited basis. Advisory committees are used extensively on certain aspects of the regional power plan and the fish and wildlife program. The Council's central staff of 44 people is located in Portland, Oregon The staff provides technical assistance in evaluating energy and fish and wildlife matters that come before the Council. In addition, public information and involvement activities as well as legal and administrative support are provided by the central office staff. Council members also receive support from state agencies and staff in conducting those activities necessary to carry out each state's responsibilities under the Act. The central office staff also supports the four state offices.

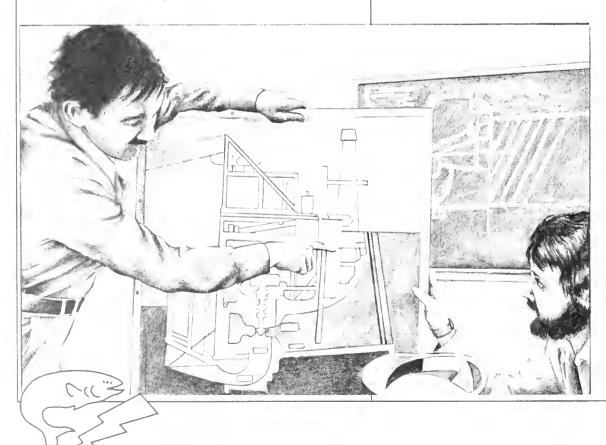
Budget

During Fiscal Year 1987, the Council devoted its efforts to monitoring the implementation of the 1986 Power Plan and amending the Columbia River Basin Fish and Wildlife Program During that year, the Council expected to expend its entire budget of \$6.663,000. Initially, the Council had anticipated an underexpenditure of approximately \$1,200,000. However, a major fish and wildlife project was added to the fish and wildlife program in 1987. The Council was able to reprogram this savings to initiate an integrated salmon and steelhead production planning effort for 31 subbasins in the Columbia River system.

The largest categories of expenditure in Fiscal Year 1987 were for the operations of the central and state staffs supporting the Council members and for fish and wildlife planning contracts. (The Fiscal Year 1986 annual audit is reproduced in Appendix H.)

In July 1987, the Council presented to Bonneville its Fiscal Year 1989 and revised Fiscal Year 1988 budgets. The Council's proposed budget for Fiscal Year 1988 is \$6,782,000. This amount will include major expenditures in the Columbia River Basin Fish and Wildlife Program to continue the subbasin planning process described above.

Budget projections assume continuing efforts to monitor the implementation of both the fish and wildlife program and the power plan and possible amendments to either, as new information from the implementation activities is evaluated. The budget was made available for public review and comment and is expected to be submitted to Congress by the President early in 1988 as part of Bonneville's budget submittal. Copies of the Council's budget are available on request.



COUNCIL MEMBERS



ROBERT B. DUNCAN (Oregon, chairman)

Duncan served in the U.S. House of Representatives representing Oregon's 4th and 3rd Congressional Districts from 1963 to 1967 and from 1974 to 1980. He represented Jackson County in the Oregon Legislature for three terms from 1957 to 1962 and was speaker of the House during the 1959 and 1961 sessions Duncan was a member of the Portland law firm of Schwabe, Williamson, Wyatt Moore and Roberts from 1980 to 1985



MORRIS BRUSETT (Montana, vice chairman)

Brusett was director of the Montana Department of Administration from 1981 to 1985. As director, he was also ex officio treasurer for the State of Montana and chairman of the Governor's Capital Finance Advisory Council He is a certified public accountant and served as Montana's legislative auditor from 1967 to 1981. responsible for conducting financial and program and ts of all state agencies





JAMES GOLLER (Idaho)

Goller spent six years as chief of staff for Idahu's Senator Goiler spent six years as chief of staff for Idahib s Senator James McClure prior to being appointed to the Council In 1966, he managed McClure's first campaign for U.S representative for daho's 1st Congressional District and has been a member of McClure's staff since then. As chief of staff, Goiler managed McClure's Idaho offices and supervised the senator's Washington D.C. staff including staff members of the U.S. Senate Committee on Energy and Natural Resources and the U.S. Senate



KAIN. LEE (Washington)

Lee is an associate professor of environmental studies and political science at the University of Washington, he s also an adjunct faculty member at the Institute of Marine Studies. He serves on the Board of Rad cactive Waste Management at the National Academy of Scence. From 1976 to 1977, he served as a White House. Fellow to the Secretary of Defense





GERALD H. MUELLER (Montana)

Mueller has been an administrative assistant and an energy advisor to Montana Governor Ted Schwinden and to Lt. Governor Schwinden between 1978 and 1981 Mueller was program manager for the Major Facilities Siting Act in 1978. He was an air analyst for the energy planning division of the Montana Department of Natural Resources and Conservation between 1974 and 1977.



NORMA PAULUS (Oregon)

Paulus, a Salem. Oregon lawyer served as secretary of state in Oregon from 1977 to 1985. When elected in 1976, she was the first woman in Oregon history to win a statewide elect on. In 1986. Paulus was her party s nominee for state governor. From 1971 to 1977, she represented Marion County for three terms in the Oregon Legislature. Paulus was an appellate lawyer before entering public service.



ROBERT W. SAXVIK (Idaho)

Saxvik was chief of staff for Idaho Governor John Evans, and vice president and general manager of KBAR in Burley, Idaho Saxvik served three terms in the Idaho State Senate where he was assistant senate minority leader. He was legislative liaison to the governor from 1977 to 1978 and director of the Office of Aging in 1978.



TOM TRULOVE (Washington)

Trulove has been a professor of economics at Eastern Washington University since 1969 and is currently taking a three-year leave of absence. He was mayor of the City of Cheney from 1978 to 1985. Active in the Association of Washington Cities, he served as a member of several of its committees and was president of the association from 1984 to 1985. During the development of the 1983. Power Plan, he was vice chairman of the Northwest Power Planning Council's forecasting subcommittee.

LIST OF APPENDICES

[Below is a list of appendices to the final annual report. To obtain them, contact the Council's Public Information and Involvement Division. 850 S.W. Broadway Suite 1100, Portland, Oregon 97205. Telephone 503-222-5161 or toll-free 1-800-222-3355 from Idaho, Montana and Washington, and 1-800-452-2324 in Oregon.]

Appendix A Staff Directory

Appendix B
Appendix C:
Appendix C:
Council Consultations on Fish and Wildlife Program Amendments

Appendix D Advisory Committees

Appendix E Documents Made Available to the

Public in Fiscal Year 1987

Appendix F: Newspaper Articles About the Council Appendix G: Fish and Wildlife Program Attachments

Appendix H Fiscal Year 1986 Annual Audit

Appendix I. Comments on the Draft Seventh Annual

Report



